

The self-supporting support zone from the material that is better resistant to mechanical loads limits the mechanical loads operatively exerted on the electrically better conductive material. Due to the support zone being self-supporting, it can, even in the event of interruption of the conduction zone as a result of, for instance, chafing, undue deformation or fatigue, operatively maintain the continuity of the conductive filament in the area where the conduction zone is interrupted. Because the conduction zone in practice, also after prolonged use, is interrupted only locally, and the conduction zone and the support zone are part of the same filament, the distance over which the support zone electrically bridges any interruptions in the conduction zone is very short. As a result, the electrical conductivity of the filament, in the event of interruption of the conduction zone, is impaired only over a very short distance and, in the event of local interruption of the conduction zone, the total electrical conductivity over a given greater length of the filament deteriorates only very little.

Advantageous embodiments of the invention are set forth in the subclaims. In the following, the invention is further illustrated and elucidated on the basis of an exemplary embodiment, with reference to the drawing. In the drawing:

Fig. 1 shows a top plan view of a fence tape.

Fig. 2 shows a somewhat schematized perspective representation of an electric wire or rope.

Figs. 3-5 show enlarged views in cross section of filaments according to three exemplary embodiments, and

Fig. 6 shows an elevation in longitudinal section of an example of partial rupture behavior of a filament according to an exemplary embodiment.

The invention will first be described with reference to Figs. 1 and 3. The exemplary embodiment represented in Fig. 3 constitutes the exemplary embodiment of a fence tape, rope or wire according to the invention that is

presently preferred most. The choice as regards the textile design aspects depends mainly on considerations of use (such as the kind of animals that is to be kept behind the fence), which are not essentially different from those for types of fence tape, rope or wire already known. Fig. 2 shows an

5 alternative exemplary embodiment, in which an electric wire or rope 7 is composed of three strands of nine filaments 8, 9 each. In this example, too, the non-conductive filaments 8 are represented in contour and the conductive filaments 9 are represented in solid black. The electric wire or rope 7 preferably contains such an excess in length of electrically conductive 10 filaments, that the electrically conductive filaments form flat loops projecting from the non-conductive filaments 8.

15 The fence tape 1 according to Fig. 1 is designed as plaiting with an electrically substantially non-conductive support structure which is formed by filaments 2 of, for instance, PE monofilaments of 0.2-0.5 mm. These are represented in contour in the drawing.

20 The fence tape further has an electrically conductive conduction structure, exposed to the environment, which in this example is formed by conductive filaments 3. These filaments 3 are represented in solid black in the drawing.

25 The textile construction of the tape 1 according to this example is conventional, with conductors 3 which per unit length of the tape 1 have a greater length than the electrically non-conductive filaments 2, so that the former lie fairly loosely within the textile structure from non-conductive material and any tensile loading exerted on the tape 1 is exerted substantially on the textile structure from non-conductive material.

30 The filaments 3 of the conduction structure are composed of two different, electrically conductive materials 4, 5 (see Fig. 3), having mutually distinctive electrical and mechanical properties. One of these materials 4 has a better electrical conductivity than the other one of these materials 5. The other one of these materials 5 has a better resistance to tensile and

bending loads than the first of these materials 4. The electrically better conductive material is preferably copper, but could also be another electrically well-conducting material, such as aluminum. The other electrically well-conducting material is preferably corrosion-resistant steel (RVS, stainless steel), for instance corrosion-resistant steel Euronorm 88-71 type X6CrNi18 10, X6CrNiTi18 10, X6CrNiMO17 12 2 or X6CrNiMOTi17 12 2 (AISI type 304, 321, 316 or 316 Ti), since corrosion-resistant steel combines good mechanical properties with a very good resistance to corrosion. It is also possible, however, to use a jacket from a different material, such as steel, but in that case, a surface treatment, such as electroplating, is necessary to achieve a corrosion-resistance that is acceptable in practice.

The electrically better conducting material, viewed in cross section, forms a conduction zone 4 and the other material, better in terms of tensile and bending loadability, constitutes a self-supporting support zone 5.

Through the presence of the conduction zone 4 from electrically highly conductive material, the total conductivity of the filament 3 is very good.

Although the mechanical loading in the form of chiefly tensile loading is substantially taken up by the textile support structure from electrically non-conductive material, the electrically conductive filaments 3, which are incorporated in a longitudinally slack, i.e., not taut, fashion in the textile construction, and may optionally project therefrom as flat loops, are also subject to mechanical loading. This is for instance the case if the tape 1 is knotted or clamped, and, in the area of the points of attachment, this last especially under the influence of wind, moves back and forth relative to the point of attachment, or actually flaps.

The support zone 5 constitutes a stiffening of the filament and takes up an important part of the mechanical loads exerted on the filament 3. As